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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HANRAHAN, JOSEPH M.J.	
ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,767	DUSTERHOFT ET AL.	
	Examiner	Art Unit	
	JOSEPH M.J. HANRAHAN	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 17-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Livermore (WO 98/32336) in view of Kringelum (WO 99/08553).

5. Livermore teaches a granule with an alpha amylase core having a diameter of at least 5 microns (Pg. 7, line 36 - Pg. 8, Line 8). It also teaches encapsulating the enzyme with at least 50 wt.% triglyceride fat having a slip melting point of at least 30 °C (Pg. 5, Line 31-36; Pg. 7, Line 36 –Pg. 8, Line 8; Note: the animal fat that is disclosed would include triglyceride fat and Example 1 discloses that the enzyme is encapsulated with fat only). Livermore also teaches combining the encapsulated enzyme with flour (Pg. 4, Line 26) and salts (Pg. 3, Lines 30-31).

6. Livermore does not teach granules in the size ranges as in Claims 17, 23, and 27, that the encapsulating layer contains at least 1% of a release agent selected from the group of monoglycerides , diglycerides, diacetyl tartaric acid ester of mono- and/or diglycleride, stearyl-lactylates and combinations thereof, or the use of a triglyceride fat with the claimed N-profile as in Claim 26.

7. Kringelum teaches an encapsulated bread additive with a diameter of 300 micrometers (Pg. 18, Line 16-18); a lipophillic layer encapsulating the core comprising monoglycerides , diglycerides, triglycerides, and diacetyl tartaric acid esters of mono- and/or diglycleride (Pg. 12, Lines 10-20).

8. It would have been obvious to a person skilled in the art at the time of invention to have combined the teachings of Kringelum with the teachings of Livermore to arrive at the claimed invention. The motivation to do so would have been to create a dough improver with desired characteristics in which the functional additive has an effect that is delayed until the desired part of the mixing and baking process (Livermore Pg. 2, Lines 4-25).

9. Regarding Claims 17, 20-22, and 24- 26, the release agents listed in claim 17 are fats or fat derivatives and would have, along with the triglyceride fat, been selected by the skilled artisan through routine trial and error to determine the appropriate fat characteristics (Livermore Pg. 6, Lines 5-9). The release agents listed therein are emulsifiers. The use of emulsifiers as part of an encapsulating matrix in bread dough improvers is known in the art (See above and Livermore, Pg. 5, Line 29). Furthermore, Livermore contemplates the use of "attritional agents" which, the examiner equates with a release agent (Pg. 6, Line 30).

10. Regarding Claim 28, it would have been obvious to prepare dough with the bread improver of Livermore and Kringelum because that is an inherent use of a bread improver. Furthermore, the addition of a bread improver is disclosed in both Livermore and Kringelum (Livermore Pg. 5, Lines 1-3; Kringelum Example 2).

11. Regarding Claim 29, it would have been obvious to use the bread improver of Livermore and Kringelum in a dough in the range of 0.01 and 5 wt. %. Livermore teaches that bread improvers are typically added in the range of 0.25 and 5 wt. % (Pg. 1, Line 21).

12. Regarding Claims 30 and 31, the methods disclosed therein are known in the art and it would have been obvious to use them with the claimed invention (Livermore 20-26).

Response to Arguments

1. Applicant's arguments filed 5/21/09 have been fully considered and are persuasive in part.

2. Applicant has argued that the rejection under 35 USC 112, 2nd paragraph is improper. The examiner agrees. The rejection has been withdrawn accordingly.

3. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose....[T]he idea of combining them flows logically from their having been individually taught in the prior art. *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA). To that end, Livermore teaches encapsulating an enzymatic dough additive with fat (contains triglycerides) so as effect a delay in the action of the enzyme

(Pg. 2, Line 20; Pg. 5, Lines 27-29) . Kringelgum teaches encapsulating an enzymatic dough additive with fatty substances such as monoglycerides to effect a delay in the action of the enzyme (Pg. 12, Lines 12-13; Pg. 10, Lines 10-22). Therefore, the prior art teaches two compositions, each of which is effective in delaying the release of an enzyme in the production of a dough product. It would have been obvious to a person of ordinary skill in the art to have combined them to give a third composition that is also useful in delaying the release of the enzyme during dough preparation.

4. Applicant further argues that Kringelum and Livermore teach away from encapsulants that release the functional ingredient early on during the dough preparation.

5. The examiner disagrees. The combination of encapsulating materials taught in Livermore and Kringelum produces results that would have been obvious to a person of ordinary skill in the art. The encapsulating materials taught by Kringelum are well known emulsifiers. The person of ordinary skill in the art would have appreciated that an encapsulating layer comprising fat and an emulsifier would in fact create an emulsion with the fat and with the moisture found in dough. Thus, the presence of the emulsifier in the encapsulating layer would promote the breakdown of the fat in the presence of water which is present during the mixing phase of bread making.

6. Additionally, Livermore specifically teaches that the enzyme may be released by an attritional agent such as a surfactant (equivalent to an emulsifier) (Page 6, Line 30). Livermore teaches that in preferred embodiments the attritional agent is an inherent property of the dough which, in fact, suggests that the attritional agent in less preferred

embodiments may be found in ways that are not inherent to the dough. As mentioned above, it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. Therefore, it would have been obvious to a person of ordinary skill in the art to have combined the encapsulants of Livermore and Kringelum and thus provide the attritional agent (emulsifier/surfactant) in the encapsulating layer.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH M.J. HANRAHAN whose telephone number is (571) 270-7060. The examiner can normally be reached on M-F from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOSEPH M.J. HANRAHAN/
Examiner, Art Unit 1794

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1794